# NPort® 5600 Desktop Series

## *8-port RS-232/422/485 serial device servers*

- 8 serial ports supporting RS-232/422/485
- Compact desktop design
- 10/100M auto-sensing Ethernet
- Built-in 15 KV ESD protection for all serial signals
- Easy IP address configuration with LCD panel
- Choice of configuration methods: Web console, Telnet console, and Windows utility
- Versatile socket operation modes, including TCP Server, TCP Client, UDP, and Real COM
- SNMP MIB-II for network management
- Built-in speaker: Use your own voice as the alert when exceptions occur

## Overview

NPort® 5600-8-DT device servers can conveniently and transparently connect 8 serial devices to an Ethernet network, allowing you to network your existing serial devices with only basic configuration. You can both centralize management of your serial devices and distribute management hosts over the network. Since the NPort® 5600-8-DT device servers have a smaller form factor compared to our 19-inch models, they are a great choice for applications that need additional serial ports, but for which mounting rails are not available.

### Convenient Design for RS-485 Applications

The NPort® 5650-8-DT device servers support selectable 1 KΩ and 150 KΩ pull high/low resistors and a 120 Ω terminator. In some critical environments, termination resistors may be needed to prevent the reflection of serial signals. When using termination resistors, it is also important to set the pull high/low resistors correctly so that the electrical signal is not corrupted. Since no set of resistor values is universally compatible with all environments, NPort® 5600-8-DT device servers use DIP switches to allow users to adjust termination and pull high/low resistor values manually for each serial port.

### Convenient Power Inputs

The NPort® 5650-8-DT device servers support both power terminal blocks and power jacks for ease of use and greater flexibility. Users can connect the terminal block directly to a DC power source, or use the power jack to connect to an AC circuit through an adaptor.

### LED Indicators to Ease Your Maintenance Tasks

The System LED, Serial Tx/Rx LEDs, and Ethernet LEDs (located on the RJ45 connector) provide a great tool for basic maintenance tasks and help engineers analyze problems in the field. The NPort® 5600's LEDs not only indicate current system and network status, but also help field engineers monitor the status of attached serial devices.

### Two Ethernet Ports for Convenient Cascade Wiring

The NPort® 5600-8-DT device servers come with two Ethernet ports that can be used as Ethernet switch ports. Connect one port to the network or server, and the other port to another Ethernet device. The dual Ethernet ports eliminate the need to connect each device to a separate Ethernet switch, reducing wiring costs.

## Appearance

## Specifications

### Ethernet Interface

**Number of Ports:** 2 (1 IP)
**Speed:** 10/100 Mbps, auto MDI/MDIX
**Connector:** 8-pin RJ45
**Magnetic Isolation Protection:** 1.5 KV built-in

### Serial Interface

**Number of Ports:** 8
**Serial Standards:**
NPort® 5610-8-DT: RS-232
NPort® 5650-8-DT: RS-232/422/485
**Connector:**
NPort® 5610-8-DT/5650-8-DT/5650I-8-DT: DB9 male
NPort® 5610-8-DT-J/5650-8-DT-J: RJ45 (8 pins)
**Serial Line Protection:**
15 KV ESD protection for all signals
2 KV isolation protection (NPort® 5650I-8-DT only)
**RS-485 Data Direction Control:** ADDC® (automatic data direction control)
**Pull High/Low Resistor for RS-485:** 1 KΩ, 150 KΩ
**Terminator for RS-485:** 120 Ω

### Serial Communication Parameters

**Data Bits:** 5, 6, 7, 8
**Stop Bits:** 1, 1.5, 2
**Parity:** None, Even, Odd, Space, Mark
**Flow Control:** DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF
**Baudrate:** 50 bps to 921.6 Kbps

### Serial Signals

**RS-232:** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
**RS-422:** Tx+, Tx-, Rx+, Rx-, GND
**RS-485-4w:** Tx+, Tx-, Rx+, Rx-, GND
**RS-485-2w:** Data+, Data-, GND

### Software

**Network Protocols:** ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, SNTP, Rtelnet, ARP, RFC2217
**Configuration Options:** Web Console, Telnet Console, Serial Console, Windows Utility
**Windows Real COM Drivers:** Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded
**Fixed TTY Drivers:** SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i
**Linux Real TTY Drivers:** Linux kernel 2.4.x, 2.6.x

### Mini Screen with Push Buttons

**LCD Panel:** Liquid Crystal Display on the case
**Push Buttons:** Four push buttons for convenient on-site configuration

### Physical Characteristics

**Housing:** Metal, IP30 protection
**Weight:**
NPort® 5610-8-DT: 1760 g
NPort® 5610-8-DT-J: 1170 g
NPort® 5650-8-DT: 1770 g
NPort® 5650-8-DT-J: 1710 g
NPort® 5650I-8-DT: 1850 g
**Dimensions:**
Without ears: 197 x 44 x 125 mm (7.76 x 1.73 x 4.92 in)
With ears: 229 x 46 x 125 mm (9.01 x 1.81 x 4.92 in)
With DIN-Rail kit on bottom panel: 197 x 53 x 125 mm (7.76 x 2.09 x 4.92 in)

### Environmental Limits

**Operating Temperature:** 0 to 55°C (32 to 131°F)
**Operating Humidity:** 5 to 95% RH
**Storage Temperature:** -20 to 70°C (-4 to 158°F)

### Power Requirements

**Input Voltage:** 12 to 48 VDC
**Power Consumption:**
NPort® 5610-8-DT:
611 mA @ 12 V, 300 mA @ 24 V, 140 mA @ 48 V
NPort® 5610-8-DT-J:
611 mA @ 12 V, 300 mA @ 24 V, 140 mA @ 48 V
NPort® 5650-8-DT:
615 mA @ 12 V, 300 mA @ 24 V, 156 mA @ 48 V
NPort® 5650I-8-DT:
1066 mA @ 12 V, 510 mA @ 24 V, 200 mA @ 48 V
NPort® 5650-8-DT-J:
615 mA @ 12 V, 300 mA @ 24 V, 156 mA @ 48 V

### Regulatory Approvals

**EMC:** CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A
**Safety:** UL (UL60950-1), TÜV (EN60950-1)

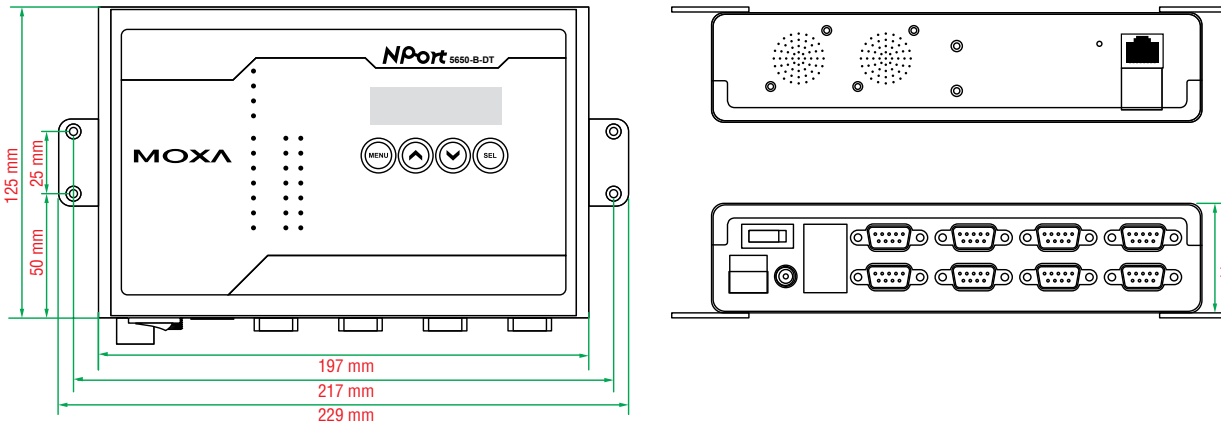
## Reliability

**Alert Tools:** Built-in buzzer and RTC (real-time clock)
**Automatic Reboot Trigger:** Built-in WDT (watchdog timer)
**MTBF (meantime between failures):** 163356 hrs

## Warranty

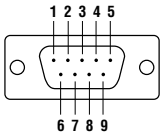
**Warranty Period:** 5 years
**Details:** See www.moxa.com/warranty

## Dimensions




## Pin Assignment

### DB9 male connector



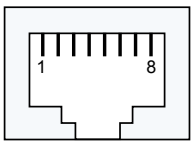

**NPort® 5610-8-DT (RS-232)**

| PIN | RS-232 |
|---|---|
| 1 | DCD |
| 2 | RxD |
| 3 | TxD |
| 4 | DTR |
| 5 | GND |
| 6 | DSR |
| 7 | RTS |
| 8 | CTS |

**NPort® 5650-8-DT/5650I-8-DT (RS-232/422/485)**

| PIN | RS-232 | RS-422/485-4w | RS-485-2w |
|---|---|---|---|
| 1 | DCD | TxD-(A) | – |
| 2 | RxD | TxD+(B) | – |
| 3 | TxD | RxD+(B) | Data+(B) |
| 4 | DTR | RxD-(A) | Data-(A) |
| 5 | GND | GND | GND |
| 6 | DSR | – | – |
| 7 | RTS | – | – |
| 8 | CTS | – | – |

### 8-pin RJ45 connector




**NPort® 5610-8-DT-J (RS-232)**

| PIN | RS-232 |
|---|---|
| 1 | DCD |
| 2 | RxD |
| 3 | TxD |
| 4 | DTR |
| 5 | GND |
| 6 | DSR |
| 7 | RTS |
| 8 | CTS |

**NPort® 5650-8-DT-J (RS-232/422/485)**

| PIN | RS-232 | RS-422/485-4w | RS-485-2w |
|---|---|---|---|
| 1 | DSR | – | – |
| 2 | RTS | TxD+ | – |
| 3 | GND | GND | GND |
| 4 | TXD | TxD- | – |
| 5 | RxD | RxD+ | Data+ |
| 6 | DCD | RxD- | Data- |
| 7 | CTS | – | – |
| 8 | DTR | – | – |

# Ordering Information

## Available Models

**NPort® 5610-8-DT:** 8-port RS-232 desktop device server with DB9 male connectors and 48 VDC power input
**NPort® 5610-8-DT-J:** 8-port RS-232 desktop device server with RJ45 connectors and 48 VDC power input
**NPort® 5650-8-DT:** 8-port RS-232/422/485 desktop device server with DB9 male connectors and 48 VDC power input
**NPort® 5650-8-DT-J:** 8-port RS-232/422/485 desktop device server with RJ45 connectors and 48 VDC power input
**NPort® 5650I-8-DT:** 8-port RS-232/422/485 desktop device server with DB9 male connectors, 48 VDC power input, and 2 KV optical isolation

## Optional Accessories (can be purchased separately)

**CBL-RJ45F25-150:** 8-pin RJ45 to DB25 female cable, 150 cm
**CBL-RJ45M25-150:** 8-pin RJ45 to DB25 male cable, 150 cm
**CBL-RJ45F9-150:** 8-pin RJ45 to DB9 female cable, 150 cm
**CBL-RJ45M9-150:** 8-pin RJ45 to DB9 male cable, 150 cm

## Package Checklist

- NPort® 5600 series device server
- Power Adaptor (see Appendix A)
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card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